

Science & Environmental Education: Community Connections, Impacts & Actions

Kindergarten Curriculum

*How Can We Reduce Our Negative
Impact On The Community?*



Purpose of

ENVIRONMENTAL EDUCATION

Environmental education is a lifelong learning process that leads to an informed and involved citizenry, having the creative problem-solving skills, scientific and social literacy, ethical awareness and sensitivity for the relationship between humans and the environment, and commitment to engage in responsible individual and cooperative actions.

By these actions, environmentally literate citizens will help ensure an ecologically and economically sustainable environment.



The following two-week integrated unit is designed for teachers and students to engage in an interdisciplinary study of science and the environment through literacy and math lessons. The lessons and activities are not meant to be done in isolation, but in support of and during literacy and math time.

Each lesson has a suggested structure with room for teachers to infuse more interactive play, discussions, or videos as well as adjust pacing as makes sense for their class. The summative assessment is designed to assess the NGSS, with several formative checks along the way for CCSS, used as the teacher sees fit.

This unit connects to the specific literacy theme of “Community.” Connections are made between people serve as community helpers through their jobs and how students serve the community through their actions as environmental stewards.

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Students in Wisconsin will be able to:

- Develop and connect with their sense of place and well-being through observation, exploration and questioning.
- Evaluate relationships and structures of natural and cultural systems and analyze their interdependence.
- Analyze the interactions and outcomes of cycles and flows in natural and cultural systems.
- Analyze the dynamic balance between natural and cultural systems.
- Engage in experiences to develop stewardship for the sustainability of natural and cultural systems.

This integrated unit uses NGSS and CCSS as the backbone to planning and infusing environmental education standards into the curriculum.

Wisconsin Standards for Environmental Literacy and Sustainability

NGSS PERFORMANCE EXPECTATION	DISCIPLINARY CORE IDEAS	SCIENCE AND ENGINEERING PRACTICES	CROSS CUTTING CONCEPTS	COMMON CORE ELA	COMMON CORE MATH
KL-ESS3 Communicate solutions that will reduce the impact on humans on the land, water, air, and/or other living things in the local environment.	Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.	Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas.	Events have causes that generate observable patterns.	CSS.ELA-LITERACY.SL.K.5 Add drawings or other visual displays to descriptions as desired to provide additional detail. CCSS.ELA-LITERACY.SL.K.6 Speak audibly and express thoughts, feelings, and ideas clearly. CCSS.ELA-LITERACY.W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about topic.	CCSS.MSATH.CONTENT.K.MD.A.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.



Day 1: [Community Helpers](#)

Day 2: [Circle of Workers](#)

Day 3: [Sorting Waste](#)

Day 4: [Stewardship Choices](#)

Day 5: [Where Does the Garbage Go?](#)

Day 6: [Retzer Nature Center Field Experience](#)

Day 7: [What Gets Wasted at Lunch?](#)

Day 8: [Making Connections](#)

Day 9: [Community Helpers Field Experience](#)

Day 10: [Summative Assessment](#)





Read: *Helpers in My Community* by Bobbie Kalman

Discussion: Community helpers

Talk about different jobs that people have in our community. Pose the question: *“How can we serve our community and reduce our negative impact on the environment?”* and discuss how the different jobs in the community reduce help reduce negative human impact on the environment.

Activity: Mural Of Workers

Begin creating a mural of workers, leaving room to add themselves as community stewards at the end of the unit. Label it: “Helpers in our Community”.

Students could work on a long strip of paper together on the floor, or work on individual sheets that can be attached to the mural after completing. Label the workers’ jobs. Keep an ongoing list of community workers.

The goal of the mural is for students to see how they are part of the community by connecting them to the traditional community helpers studied during this literacy unit.



Day 2

CIRCLE OF WORKERS



Read: Career Day by Anne Rockwell

Activity: Playing Acting Community Jobs

Have index cards with jobs listed on them (photos or pictures). Demonstrate acting out a job, such as a librarian, without using your voice. See if the children can guess the job.

Hand the cards to teams of 2-3 students, giving them a few minutes to practice play-acting their given job. Have the class guess the jobs as the students act them out.

Discussion: How are you a community steward?

At the end of the lesson, have students create a *Thoughtful Log* (could be used as a formative assessment) detailing a circle of workers. Have students fill in the spaces, leaving a space for themselves, as they are Community Stewards as well.

Optional ongoing activity: Set up discovery play areas for students to try out community jobs, such as: a post office, grocery store, vet or doctor's office, garbage and recycling haulers, etc.





Discussion: What is recycling?

Introduce recycling bins to the students and discuss the symbol on the side (*what do the arrows mean?*)

Activity: Waste Sort

Bring in items (glass jars, plastic, paper, aluminum, steel, styrofoam, wrapper, etc.) Tell students that some of these items do not need to go into the trash, but can be recycled.

Sort the items into labeled piles or containers. Graph the recyclable items and non-recyclable items on a class graph and/or let students copy onto individuals graphs.

Be sure to connect the activity to the community by discussing garbage and recycling haulers and how they are community helpers. Explain that the students are also community helpers when they recycle.

Optional: Waukesha County Recycling can provide materials for this activity, including items and containers for sorting. For other options, view the information provided on [Day 6](#).



Activity: Your Choices Matter

Read some of the *choice cards* to the class. Have students choose the best answer for caring for the environment (students could be grouped into teams to discuss and “buzz in” their answer).

Discussion: What can I do?

Pose the question: *What is one thing you can do to be a steward to the earth?*

Science Journal Prompt:

After the discussion, have students draw a picture of themselves being stewards either in their *Thoughtful Logs* or on the community helpers mural from the first activity.

Possible ideas for community stewardship: shop with reusable bags, take plastic bags back to the store for recycling, turn off the lights when leaving a room, donate old clothing & toys, turn off the water while brushing teeth.





Discussion: Where does it go?

Pose the questions: *Where Does the Garbage Go? Where does it go when we throw it away?* Have students discuss in groups and then share their thoughts with the class.

Read: *Where Does the Garbage Go?** by Paul Showers

Activity: Brain Pop Jr. *Reduce, Reuse, Recycle*

Talk about what the items around them are made from and what happens after the items are used.

Science Journal Prompt:

Connect back to the essential question: *"How can we serve our community and reduce our negative impact on the environment?"* by having small groups brainstorm ways to reduce the amount of garbage they create at school and at home.

**This book, along with a variety of related activities and books, is available on loan from Waukesha County Recycling.*



Waukesha County Recycling Programs, Do One or Both- For FREE!

1) In-school recycling program from a Waukesha County Recycling Program Educator (½ hr.)

Learn about the 4 Rs (Reduce, Reuse, Recycle & Rot/compost) and how they reduce our negative impact on the community. Find out how recycling works: what goes in the bin, where recyclables go, and what they become. Play recycling games and engage in a Community Helper “fashion show”.

Optional: Finish with a visit from our mascot, Recycle Raccoon. (Costume is supplied, a volunteer would be needed.)

2) Field Experience at Retzer Nature Center’s interactive Recycling Exhibit/Classroom Program. (1 hr)

Students will take part in an interactive exhibit space with an “eco-house” kitchen area, a mini-Materials Recycling Facility (MRF), and a storefront. Student can “operate” the sorting system, discover what happens to recyclables after they are sorted, stock shelves with recyclables, and “purchase” recycled items. A word wall ties in literacy themes, such as: community, helpers, reduce, reuse, and recycle.



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**Discussion: Wasted resources**

Pose the question: *What gets wasted at lunch?* Have students work in collaborative pairs or groups to identify types of waste (food, packaging, or recyclables thrown in the trash) that they see in the lunchroom.

Activity: Waste Assessment

As a class, determine what type of waste they wish to monitor, measure, and act upon. *This could be tied to the summative assessment, or used to create an entire action project for the class.*

Waste Assessment Example

- Milk cartons are sometimes thrown in the trash instead of being recycled properly. Collect and count the empty milk cartons used by the student body during lunch. Talk about how these milk cartons would have ended up in the landfill. Pose the question: *“How many milk cartons could be kept out of the landfill each day by recycling them?”*
- Collect milk cartons for one week and graph the number of cartons collected each day.
- Ask: *“What as kindergarten stewards, would you need to do in order to begin a school-wide effort to recycle empty milk cartons?”*



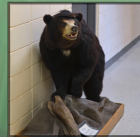
Discussion: Making connections between lessons
Review the discussions, lessons, and activities from Days 1-7.
Pose the question: *What is my role, as a Community Helper, to make our community a better place to live?*

Science Journal Prompt: Thoughtful Log
Have students make a *Thoughtful Log* page or create a class book describing the citizen actions they will take as Community Helpers. Use phrases similar to the ones below to help students begin their pages.

"I will be a good citizen of my community by ____."

"I am helping my community when I ____."

"I will be a good steward of my community when I ____."



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Activity: Brain Pop Jr [Conservation](#)

Discussion: What effect do humans have on animal habitats?

After the visit, have students make connections between the animals and their habitats, and how the students can be stewards in the community through verbal or pictorial reflection.

Optional: Have students research areas related to the health of their community, such as: landfills, river and water quality, and recycling.

All SDW teachers should schedule this program directly through SDW Env. Ed.

Have students make posters to convince others to do one of the following: reduce, recycle, reuse, or compost.

Advanced students should not only communicate a solution through their posters, but also work to take action in their school or local community.

Examples: Create an all-school announcement or skit, make announcements to other classes, or hold a meeting with the principal to discuss a list of action items that could be implemented around the school.

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KL-ESS3, Communicate solutions that will reduce the impact on humans on the land, water, air, and/or other living things in the local environment.	I can communicate solutions that will reduce the impact of humans on the land, water, air or other living things in our environment and take action.	I can communicate solutions that will reduce the impact of humans on the land, water, air, or other living things in our environment.	I can identify a solution that will reduce the impact of humans on the land, water, air or other living things in our environment.	I can identify a problem of human impact on the environment.

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[Community Helper Classroom Activity Ideas](#)

Wisconsin DNR

[Recycling Outreach](#)

[Keepin' it in the Loop](#)

[WEE Recyclers Activity & Learning Guide](#)

Waukesha County Recycling loan program: 262-896-8300 or recycling@waukeshacounty.gov

Books:

Where Does the Garbage Go?

Joseph Had a Little Overcoat

The Great Trash Bash

Dinosaurs to the Rescue: A guide to protecting our planet

The Berenstain Bears Don't Pollute (anymore)

Dougal the Garbage Dump Bear

How Spider Stopped the Litterbugs

*School recycling assistance can also be
provided to Waukesha County schools.*

Other Media:

The Magic School Bus DVD - Kids learn how recycling helps the earth in holiday special

Jack Johnson dvd songs: The 3 Rs (Curious George)

Curious George Goes Green dvd (recycling, trash, composting)

No endorsement of any business is intended.



Waukesha County, Waukesha School District, and Carroll University have collaborated to create a comprehensive, interdisciplinary K-12 science and environmental education curriculum fully integrated with NGSS Science and Literacy standards.

The goal of this curriculum is to create more scientifically and environmentally literate citizens with the ability to understand and critically assess current scientific and environmental issues, along with a desire and ability to engage in these issues. This project focuses on improving efficiencies through program coordination among partners as well as building comprehensive approaches.

